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Profile and training needs of teachers of adult education in Spain

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ABSTRACT

The principal aim of this work is to identify the profile and training needs of teachers of adult education in the Community of Madrid (Spain) (CM). For this, an *ad hoc* questionnaire was developed with items grouped into five dimensions: 1. evaluation of teacher training; 2. topics on which teacher training should focus; 3. characteristics that teachers should possess; 4. specificity of Adult Education Centres (AECs), and 5. teacher motivation and expectations in relation to their professional future. The final sample consisted of 153 teachers from 31 selected AECs. Reliability and a validity analyses were conducted on the results of the questionnaire. The responses of teachers were notably homogeneous regardless of age, years of experience, etc. and teachers expressed a high degree of commitment and dedication to their profession.

KEYWORDS

Teachers; AEC; adults; training; profile

1. Introduction

A wide range of international policies and programs have been proposed to foster and encourage lifelong learning, most recently and specifically within the scope of Sustainable Development Goal (SDG) 4: To ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Education is the key to the achievement of other SDGs: access to quality education will facilitate the mitigation of inequalities and poverty while contributing to the creation of a more sustainable and peaceful society (UN n.d). Subsequently, the VII International Conference on Adult Education (CONFINTEA VII) convened by the UNESCO (Morocco, June 2022) proposed guidelines for adult learning and education policy from the perspective of lifelong learning. Adult education, as a central component of lifelong learning, encompasses all forms of education and learning and aims not only to enhance an individual's employment opportunities but also to enable them to participate effectively in society.

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In this regard, it's important to distinguish between lifelong learning and adult education. According to Tünnermann (2010), the re-valuation of the former is one of the most significant events in the history of education in the second half of the 20th century. Although it owes much to Adult Education, these terms should not be considered synonymous: limiting lifelong learning to a specific age group is a contradiction in terms. This article however will focus specifically on Adult Education.

Adult Education is a central aspect of the European Higher Education Area strategy for 2021–2030. The right to education, training and lifelong learning is one of the European Pillars of Social Rights (European Commission 2021). However, according to the 2022 report of the Education and Training Monitor (European Commission 2022) only 10.8% of adults aged 25 to 64 participate in monthly learning activities. The goal of the European Union for 2030 is for at least 60% of adults aged 25 to 64 to have participated in learning activities within the last 12 months.

The Resolution adopted by the Council of the European Union (2021) on a new European Agenda for adult learning highlights the need to significantly increase adult participation in formal, non-formal and informal learning. The plan considers the diverse models of adult learning of EU Member States according to their specific needs, circumstances, policies, strategies and national, regional and local traditions. Studies have shown that practices in adult learning and education in general throughout Europe have diverged even more due to the COVID-19 pandemic (European Commission 2020, UNESCO Institute for Lifelong Learning 2020, OCDE, 2021).

The EU recognises the need to address this sectorial, political and legal fragmentation in education and training. Furthermore, reports emphasise that adult learning must go beyond the development of work-related skills and competences to incorporate various types of education through flexible programs and itineraries.

CEDEFOP (2020) reveals that some 46% of the active adult population in Europe is professionally vulnerable due to inadequate skills and training, and Eurydice (2021, 2024a, 2024b) notes that adult education and training contributes not only to an individual's employability but also to their health and wellbeing.

The information and recommendations provided in these international reports invite a reconsideration of the importance of adult education. In many respects, there is a profound ignorance of educational realities, underscoring the importance of actions which raise public awareness of the learning opportunities available to adults, especially for those with low or basic qualifications, skills and competences.

The UNESCO (2016) has identified adult education and training as a key issue in contemporary society. However, basic data on this type of education continue to be inadequate and incomplete. Any serious commitment to adult education also demands the social and institutional recognition of teachers in this field.

Teacher training for adult education remains a largely unexplored area within the field of education research. Rose *et al.* (2005) found that there are very few studies into adult education and that many teachers working in this area lack sufficient professional training. Fombona *et al.* (2019) emphasise the widespread lack of awareness of the important role of adult education centres.

As noted by Morón (2014), a great deal of research has been conducted into teacher training at the pre-primary, primary and secondary education levels but very

little into the training of teachers in adult education (AE), which clearly requires a different conceptual, procedural and methodological approach.

Walters and Watters (2017) note that there has been scant analysis of the actual role of institutions in adult education, their resources, organisation, professional profiles, etc. Adult learners require specialised teachers with a specific professional profile (Joaquim and Pesce 2016) using methodologies oriented towards the education of adults (Soares and Pedroso 2016). Colliander (2019) explores what societal changes for second language education for adults mean for the teacher's professional identity. The results show that migration, marketisation or digitalisation all imply changes which have a profound effect on the teachers.

Marx *et al.* (2017) have suggested that adult learning requires educators to have specific professional competences while Wahlgren *et al.* (2016) maintain that there are additional and unique dimensions to adult education that teachers must be equipped to address. Nesbit *et al.* (2020) explore the specific principles of adult education where learning is facilitated; that is, students themselves direct their own learning process accompanied and guided by their teachers. In this regard, Fernández-Fernández *et al.* (2016) point towards the import role of the teacher as researcher, inquirer or reflective practitioner. This proposal is based on the proposals of John Dewey (1933) on reflective experience. Dewey's ideas were subsequently further developed by authors such as Stenhouse, Carr or Schön (1983), who coined the term 'reflective practice'. In the Spanish context, notable figures in reflective practice include Gimeno and Pérez Gómez (1992).

Several authors point out the importance of proper training for adult education teachers: Rodríguez Correa and Rivadulla-López (2017) highlight the need for teacher training adapted to the specific characteristics, requirements and interests of this group, noting the need for both initial training of AE teachers to develop the necessary skills and competences as well as continuous training for current teachers. Pascual *et al.* (2023) come to similar conclusions, noting that adult educators often feel inadequately prepared and have limited opportunities for continuous training throughout their careers. There is a need for the development of new personal and social skills, a flexible, practical, individualised and engaging approach to the field of adult education (Fombona *et al.* 2023).

Given these apparent shortcomings, this study aimed to seek out the views of teachers themselves, about their pedagogical work in Spain.

In the first part of the article, the context in which the study is situated will be described, along with the formulation of the objectives and the research question. In a subsequent section, the research design employed will be outlined, detailing the procedure followed in the selection of the sample, the development of the instrument, and the collection of the data. The analysis of the results obtained—reliability and validity analysis, descriptive analysis of the sample, and main analyses—will precede the discussion of the results and the formulation of the conclusions.

2. Context, aims and research question

Under the current Spanish education law (LOMLOE, 2020), adult education is open to anyone over the age of 18. Exceptionally, those over the age of 16 can enrol in

this type of education when their work circumstances do not allow them to attend conventional schools or in the case of high-performance athletes. Furthermore, those over the age of 16 may access this type of education where duly accredited circumstances impede them from attending conventional schools as well as those who have not been previously enrolled in the Spanish education system.

The organisation of adult learning in Spain, as with all other areas of education, is the competence of the Autonomous Communities although structured within the national framework established by the prevailing Education Act (currently the LOMLOE, 2020). However, the practical implementation of the law, both in regulatory terms and in terms of organisation, administration, teachers and students, is under the authority of regional governments.

Despite this decentralised structure, adult education (AE) is very similar throughout the country, with classes imparted in Adult Education Centres (AECs) to those over the age of 18 (or 16 under the conditions outlined above) who wish to acquire, complement or upgrade their skills and qualifications. These centres endeavour to adapt to the student, both in terms of schedules (facilitating access to classes compatible with work or family responsibilities) and modalities (presential, semi-presential or online), and otherwise attending to the highly diverse characteristics of the student population.

The LOMLOE (2020) emphasises the importance of promoting the use of new digital technologies in order to adapt to the personal training needs of adults and their individual learning rhythms. In line with this, the development of training initiatives and the creation of educational materials in electronic format should also be encouraged.

Adult Education Centres in Spain offer three types of learning:

- formal, including all education programs leading to an official qualification: Basic education, Secondary education for adults, Basic Vocational Training and Baccalaureate for adults (the last not available in all Autonomous Communities);
- non-formal, as a complement to formal education, including preparation for external exams, socio-cultural development or employment skills, such as Spanish as a foreign language, access exams for University or Vocational Training, etc.
- and, finally, informal education, that is, all forms of intentional, non-institutional learning. This includes a range of domestic, workplace or community activities.

Within this context, the main objectives of the study are as follows:

- To analyse the profile formative y professional and perceptions of teachers regarding the need for specific training oriented towards Adult Education.
- To develop and validate a questionnaire aimed at Adult Education teachers in the CM that facilitates the analysis of this profile.

Thus, the present paper tries to answer the following research question: what is the profile of adult education teachers and what are their training needs?

The process for the creation and validation of the questionnaire, and the principal results and conclusions to be drawn will be discussed below.

3. Materials and methods

3.1. Research design

A non-experimental, ex-post facto research methodology was used for this study. The research approach is primarily descriptive; however, in order to ensure the relevance of the results in the development of training proposals AE teachers, the study also used a combination of descriptive analysis and methods for contrasting the significance of differences between groups.

The relevance we refer to is closely related to the sample from which the information was drawn and great care was taken in the selection of participants. While the sample size is very important, it is not the only or even the most determining factor. Knowledge of the population from which the sample is drawn is a factor that significantly influences its representativeness. This was taken into account in the sampling process, given that the research team includes working teachers and educational leaders with deep knowledge and extensive experience in Adult Education.

3.2. Population and sample

To identify the target population of the study and select the sample we relied on data provided by the Technical Unit for Adult Education and Attention to Diversity, dependent on the General Directorate of Secondary Education, Vocational Training, and Special Regime of the Ministry of Education of the CM. The data, from the 2022–2023 academic year, show there are 70 Adult Education Centres (AECs) in the CM, distributed in five territorial area directorates (DATs). In turn, these centres are organised into three groups according to their scope of implementation - local (municipality) or regional (serving several municipalities) - and their specificity - AECs integrated into penitentiaries. The distribution of the AECs is provided in [Table 1](#)

To conclude, it is also necessary to refer to the population of teachers in the Adult Education Centres (AECs) of the CM. The data provided by the Technical Unit for Adult Education and Attention to Diversity refers to full-time equivalent teachers (FTE). The total number of FTE teachers in the academic year of reference (2022–2023) is 857.49. [Table 2](#) shows the distribution of teachers based on the territorial area directorate (DAT) to which the AECs is assigned.

Table 1. AECs in the CM, academic year 2022–2023.

Types	Territorial area directorate (DAT)					Total
	Madrid-capital	Madrid-north	Madrid-south	Madrid-east	Madrid-west	
Local	27	1	8	5	4	45
Regional	0	4	4	5	5	18
In penitentiaries	0	1	3	3	0	7
Total	27	6	15	13	9	70

Source: Technical Unit for Adult Education and Attention to Diversity. General Directorate of Secondary Education, Vocational Training, and Special Regime of the Ministry of Education of the CM.

Table 2. Number of teachers (FTE) in AECs in the CM, academic year 2022–2023.

DAT	Teachers (FTE)
Madrid-capital	341,22
Madrid-north	65,64
Madrid-south	237,00
Madrid-east	129,80
Madrid-west	83,83
Total	857,49

Source: Technical Unit for Adult Education and Attention to Diversity. General Directorate of Secondary Education, Vocational Training, and Special Regime of the Ministry of Education of the CM.

The selection procedure was as follows:

1. The centres were selected based on their geographical location, size, and characteristics (local and regional), aiming to encompass all these aspects within the sample. Subsequently, a convenience sample of the centres was selected, ensuring representation of each type. A total of 31 AECs were chosen, representing 44.28% of the population based on the number of teachers in the centres, their geographical location, scope of implementation, and specificity. A total of 31 AECs were chosen.
2. Contact with directors and management teams of the AECs: In order to obtain their participation in the study, directors of the centres were contacted to present the purpose and design of the research. The directors of the centres expressed their consent through an email response.
3. Sending questionnaires to teachers: Through the management teams of the selected centres, the link to the electronic questionnaire was sent so that the 433 teachers at these centres could respond. The questionnaire informed them about the confidentiality of the data, their rights throughout the research process, and requested their authorisation for the use of the data provided solely for the purposes of the research and the dissemination of results. It should be noted that the dedication of the participating teachers was not taken into account in this count, so the percentage of participation can only be estimated. A total of 153 completed questionnaires were collected. In the questionnaire sent, the teaching staff was asked to express their consent to participate in the study in accordance with the norms and criteria established by the institution's research ethics committee.

Additionally, since all participants were of legal age and the questionnaire did not collect any sensitive information, it was not necessary to submit it for evaluation by the ethics committee.

3.3. Instruments for collecting information

To obtain the necessary data for the study, a survey-type questionnaire was developed which asked participants to respond on a six-level Likert scale (1–6).

The initial questionnaire was based on the objectives of Adult Education outlined in the prevailing Education Act (LOMLOE). A total of 39 items were developed regarding the educational profile of the teacher, corresponding to five dimensions, along with two additional items that would later be used to address a different topic. The items of the questionnaires were grouped into five dimensions:

- Evaluation of Faculty Training: Assessment of the level and characteristics of the training provided to faculty in Adult Education Centres (AECs), as well as their training needs.
- Contents of Faculty Training: Evaluation of the importance of including specific content in the training of faculty in Adult Education Centres (AECs).
- Faculty Traits: Assessment of the significance of certain personal traits in the performance of faculty in Adult Education Centres (AECs).
- Specificity of AECs: Evaluation of the specificity of Adult Education Centres and their importance in the education of adult learners.
- Teacher Motivation and Expectations: Assessment of faculty expectations regarding their professional future.

The questionnaire was validated by 17 experts (10 specialists in the field of Adult Education and 7 experts in the field of assessment) who were asked to evaluate each item on a rating scale that included 6 values (from 1 to 6) across two dimensions: The first dimension was the relevance/suitability of the question to the study and the characteristics of the interviewees; the second dimension was clarity, in terms of wording, absence of ambiguity, and the potential for misunderstandings. The SPSS V.21 program was used to analyse the data.

The analysis showed high scores for both relevance and clarity for all items in the questionnaire, above 5 out of 6, confirming the adequacy of the questionnaire for the research. As part of the analysis, the level of agreement among evaluators was assessed using Kendall's W test. The results indicated significant agreement ($p < 0.01$), although the value of the statistic should be considered in the range of low consensus ($W = 0.156$).

The final version of the questionnaire has the following structure (Tables 3 and 4):

4. Results

4.1. Reliability and validity analysis

The results of the questionnaire were analysed for reliability to assess the internal consistency of the responses. Both Cronbach's alpha coefficient and McDonald's omega coefficient were used for this purpose. The findings (Table 5) suggest that the questionnaire responses are highly correlated with each other, indicating robust reliability.

Table 3. Structure of the questionnaire.

	N
Classifying variables	11
Scale items	28
Total	39

Source: Own elaboration.

Table 4. Theoretical structure of the questionnaire.

Classifying variables	
	<ol style="list-style-type: none"> 1. Type of AECs where you teach classes (You can select multiple options) 2. Indicate your age in completed years. 3. Indicate your gender. 4. Position. 5. Indicate the group of teachers to which you belong. 6. Indicate your level of education (highest level). 7. Indicate your years of teaching experience in any stage or modality. 8. Indicate your years of teaching experience in adult education. 9. If you are or have been part of the management team of an AECs, indicate for how many years. 10. Indicate the area(s) in which you teach. 11. Indicate your current professional situation.
Dimensions	Items
Evaluation of faculty training	<ol style="list-style-type: none"> 13. Teachers teaching in adult education centres have specific training in adult learning. 14. AECs teachers have training in issues related to adults to better understand their situation (academic, family, psychological). 15. There should be specific training in adult education in the Master's Degree in Teacher Training and in the Degree in Primary Education. 16. Rate from 1 to 6 the importance of having a specific training pathway (specific training for adult education) for teachers who will teach adults or in adult centres. 17. Indicate the way in which specific training in adult education should be provided (You can select multiple options). 18. Have you received any type of training in Adult Education (initial courses, courses promoted by training centres, etc.)? 19. If yes, rate from 1 to 6 the quality and suitability of the training received.
Contents of faculty training	<ol style="list-style-type: none"> 21. The job market for adults with and without education to adapt to their labour needs. 22. Educational needs of adult students in educational centres. 23. Digitalisation specifically oriented towards adults (digital competence). 24. Psychological/sociological characteristics of adults. 25. Specific monitoring and tutoring for adults. 26. Vocational guidance and training as tutorial work in adult centres. 27. Learning and development of abilities in adulthood. 28. Strategies, tools, and specific methodology for teaching adult migrant populations, vulnerable students due to different personal or social situations (special education, incarcerated population, etc.) or aimed at educational inclusion. 29. Indicate other aspects in which you consider it advisable for adult education teachers to receive training.
Faculty traits	<ol style="list-style-type: none"> 30. Mastery of content. 31. Approachability. 32. Empathy. 33. Flexibility. 34. Patience.
Specificity of AECs	<ol style="list-style-type: none"> 12. All adult education should be provided in adult centres. 20. In addition to the usual teachings provided in AECs, what other teachings do you think could be provided? 35. In your opinion, are there differences between an AECs and a primary or secondary education centre? 36. If yes, indicate which ones. 37. In your case, what do you value more about an AECs compared to a secondary or primary school?
Teacher motivation and expectations	<ol style="list-style-type: none"> 38. I see myself working as a teacher throughout my professional life. 39. I see myself working as an adult education teacher throughout my professional life.

Source: Own elaboration.

Table 5. Reliability analysis.

	Cronbach's α	McDonald's ω
Scale	0.827	0.875

Source: SPSS V. 21.

Table 6. Assumption analysis.

Bartlett's test of sphericity			KMO measure of sampling adequacy
χ^2	df	P	MSA
1024	210	<.001	0.817

Source: SPSS V. 21.

Table 7. EFA summary.

Factor	SS loadings	% of variance	Cumulative %
1	4.57	21.75	21.8
2	3.33	15.83	37.6
3	1.91	9.10	46.7

Source: SPSS V. 21.

Table 8. Correlation matrix.

	1	2	3
1	--	0.590	0.0308
2		--	0.1003
3			--

Source: SPSS V. 21.

An Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to analyse questionnaire validity. First, a CFA was conducted on the theoretical structure of the questionnaire showing an unsatisfactory model fit. Therefore, a CFA was performed to define this structure. The necessary calculations were previously carried out to ensure compliance with the assumptions required for the analysis: Bartlett's test of sphericity and Kaiser-Meyer-Olkin measure of sampling adequacy. The results shown in [Table 6](#) confirm adequacy.

During the EFA process, several analyses were conducted using the minimum residuals extraction method and orthogonal varimax rotation, as well as oblique oblimin direct rotation methods.

From the initial extraction, 3 factors explained 46.7% of the variance in the model ([Table 7](#)). The factor matrix obtained by the oblimin direct rotation method ([Table 8](#)), which best adheres to Thurstone's (1935) principle of simple structure, shows a clearly defined factor structure that partially reflects the questionnaire's structure outlined earlier and its alignment with the project's objectives ([Table 9](#)).

The factor matrix indicates the presence of a primary factor associated with dimension 2 - contents of faculty training -; a second factor corresponds to dimension 3 - faculty traits -; the third factor includes elements from dimension 1 - evaluation of faculty training -. It could be asserted, as mentioned earlier, that the questionnaire structure corresponds to the study objectives.

A CFA was performed to validate the construct derived from the Exploratory Factor Analysis EFA. The results of the model fit indices ([Table 10](#)) and the diagram illustrating the factor structure ([Chart 1](#)) are provided below:

The indicators show an adequate model fit both in terms of absolute fit ($\chi^2/df < 3$) and relative fit (CFI and TLI ≥ 0.90); concerning parsimonious fit indices, the fit is good (RMSEA and SRMS ≤ 0.80), confirming the validity of the construct.

Table 9. Factor weighting matrix.

	Factor			Uniqueness
	1	2	3	
25. Specific monitoring and tutoring for adults.	0.809	-0.007	0.038	0.348
24. Psychological/sociologic characteristics of adults.	0.745	0.055	0.054	0.391
16. Rate from 1 to 6 the importance of having a specific training program (specific training for adult education) for teachers who will teach adults or in adult education centres.al characteristics of adults.	0.672	-0.172	0.011	0.641
27. Learning and development of capabilities in adulthood.	0.654	0.088	0.020	0.501
15. There should be specific training in adult education in the Master's Degree in Teacher Training and in the Degree in Primary Education.	0.651	-0.167	-0.165	0.637
22. Educational needs of adult students in educational centres.	0.631	0.301	-0.003	0.308
28. Strategies, tools, and specific methodology for teaching adult migrant populations, vulnerable students due to different personal or social situations (special education, incarcerated population, etc.) or aimed at educational inclusion.	0.619	-0.047	-0.138	0.630
26. Vocational training and guidance as tutorial work in adult education centres.	0.545	0.325	0.099	0.389
21. The job market for adults with and without education to meet their labour needs.	0.472	0.298	0.040	0.533
23. Digitalisation specifically oriented towards adults (digital competence).	0.431	0.033	-0.003	0.797
39. I see myself working as an adult educator throughout my professional life.	0.357	0.061	0.009	0.845
19. If yes, rate the quality and suitability of the training received from 1 to 6.	0.290	-0.201	0.160	0.915
31. Proximity	-0.101	0.945	-0.011	0.199
32. Empathy.	0.053	0.784	-0.047	0.342
33. Flexibility.	0.191	0.746	-0.043	0.260
34. Patience.	0.074	0.742	0.090	0.364
38. I see myself working as a teacher throughout my professional life.	0.029	-0.109	0.033	0.990
13. Teachers who teach in adult education centres have specific training in adult learning.	-0.002	-0.018	0.942	0.115
14. Teachers in Adult Education Centres (AECs) have training in issues related to adults to better understand their situation (academic, family, psychological).	-0.006	-0.014	0.906	0.180
12. All adult education should be provided in adult education centres.	0.172	0.159	0.294	0.817
30. Mastery of content.	0.017	-0.036	0.078	0.993

The bold values indicate the items that constitute a factor, as determined by their factor loadings. Note: 'Minimum residual' extraction method was used in combination with an 'oblimin' rotation.

Source: SPSS V. 21.

Table 10. Model fit.

Test for exact fit			Fit measures					
χ^2	Df	P	CFI	TLI	SRMR	RMSEA	RMSEA 90% CI	
							Lower	Upper
154	62	<0.01	0.942	0.904	0.0771	0.0578	0.0464	0.693

Source: SPSS V.21.

4.2. Descriptive analysis of the sample

The survey was completed by 153 teachers from the 31 participating AECs in the CM. The characteristics of these groups vary in terms of gender, age, professional status, position, and teaching experience. The most relevant results of this analysis are presented below:

- The sample of teachers consisted of 65.79% women and 34.21% men. These data are similar to those regarding the distribution of the AECs teacher population by gender in the CM (Table 11).

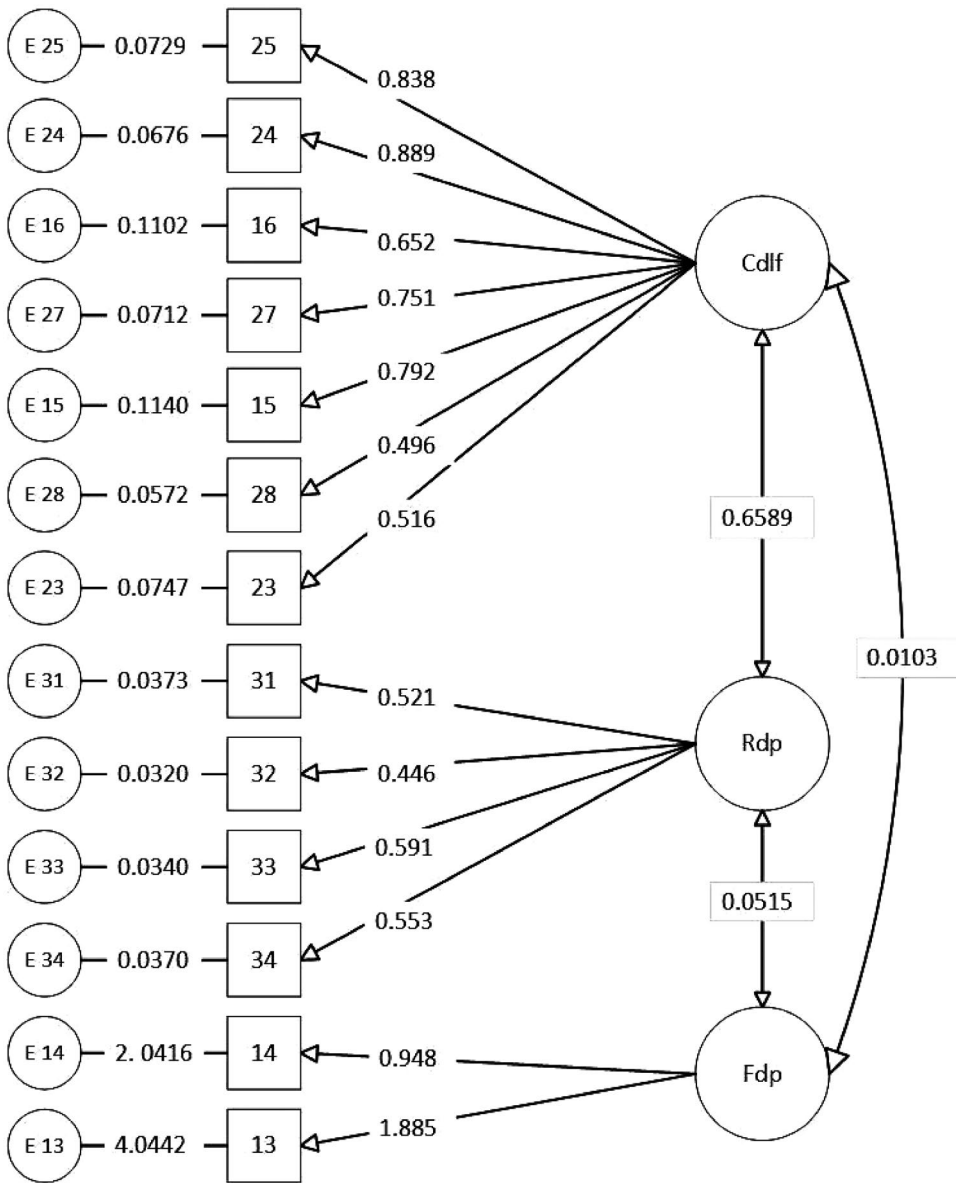


Chart 1. Path diagram.
Source: Self-generated using SPSS V.21.

Table 11. Distribution of AEC teachers in the CM by gender. Academic year 2022–2023.

Total	Men	Women
Adults education	33,61%	66,39%

Source: Own elaboration based on 2024 - Statistics of Education in the CM. General Directorate of Bilingualism and Quality of Education. Ministry of Education, Science, and Universities of the CM.

- The average age of the teachers is 45.3 years, with a standard deviation of 9.79 years.
- The data correspond to age are often related to the teaching experience of the teachers. The average is 15.9 years with a standard deviation of 10.4; a high degree of variability. The data concerning experience in adult education is notable: compared to the almost 16 years of average experience in any stage, in adult education, the average is 7.8 years (S.D.=8). The data indicates the high labour mobility of a significant portion of the teaching staff, contrasting with the high stability of another portion. There may be a relationship between these figures and the fact that 48.36% of teachers are or have been part of the management teams of the AECs: low stability in the teaching staff leads those with more years of tenure to take on these responsibilities, and this, precisely, leads them to increase their tenure in the centres. It should be noted in relation to the above that 30.07% of teachers are in interim positions awaiting a new assignment, to which must be added a further 5.88% who are temporarily substituting. This accounts for more than a third of the AECs' staff.
- Of this teaching staff, 70.59% belong to the Secondary Education teachers group, while 24.18% and 5.23% are part of the Primary Education teachers group and Technical Vocational Training teachers group, respectively.
- Regarding the academic degree of the teaching staff, it should be noted that 15.69% of the teaching staff have diplomas, technical architect or technical engineer degrees; 58.82% have bachelor's, engineering or architecture degrees, or university degrees, while 25.49% have postgraduate studies (7.19% have a doctorate).
- A final notable data is that more than two-thirds of the sample respond that they have received specific training in adult education (69.28%) compared to 30.72% who claim not to have received it.

4.3. Main analysis

4.3.1. Descriptive statistics

Below, we present the fundamental analyses regarding the study objectives.

Firstly, we provide the values of basic descriptive statistics for the questionnaire items on a scale of 1 to 6 (Table 12).

As shown in the table, almost all items receive high scores on the scale, above 5 out of 6. These scores are highly homogeneous, indicating a high degree of agreement among the study participants. Scores for items 13 (Teachers teaching in an adult education centre have specific training in adult learning) and 14 (Teachers at AECs have training in issues related to adults to better understand their situation (academic, family, psychological) contrast with the rest. The scores are below the midpoint of the scale (3.23 and 3.25 respectively). This may indicate a perceived lack of training. The considerable variability in scores should be taken into account (standard deviation of 1.51 and 1.48 respectively): agreement on this item is not complete and further research should be conducted in subsequent studies.

Table 12. Mean and standard deviation of items with responses on a 1–6 scale.

Item	Mean	S.D.
12. All adult education should be provided in adult education centres.	5,16	1,27
13. Teachers who teach in adult education centres have specific training in adult learning.	3,23	1,51
14. Teachers in Adult Education Centres (AECs) have training in issues related to adults to better understand their situation (academic, family, psychological).	3,25	1,48
15. There should be specific training in adult education in the Master's Degree in Teacher Training and in the Degree in Primary Education.	5,02	1,38
16. Rate from 1 to 6 the importance of having a specific training program (specific training for adult education) for teachers who will teach adults or in adult education centres.al characteristics of adults.	4.79	1.3
19. If yes, rate the quality and suitability of the training received from 1 to 6.	4,61	1,02
21. The job market for adults with and without education to meet their labour needs.	5,03	1,05
22. Educational needs of adult students in educational centres	5,41	0,949
23. Digitalisation specifically oriented towards adults (digital competence).	5,37	0,901
24. Psychological/sociologic characteristics of adults.	5,4	0,955
25. Specific monitoring and tutoring for adults.	5,25	0,984
26. Vocational training and guidance as tutorial work in adult education centres.	5,31	0,921
27. Learning and development of capabilities in adulthood.	5,39	0,94
28. Strategies, tools, and specific methodology for teaching adult migrant populations, vulnerable students due to different personal or social situations (special education, incarcerated population...) or aimed at educational inclusion.	5,61	0,719
30. Mastery of content.	5,11	0,839
31. Proximity.	5,66	0,745
32. Empathy.	5,84	0,479
33. Flexibility.	5,75	0,61
34. Patience.	5,78	0,587
38. I see myself working as a teacher throughout my professional life.	5,67	0,795
39. I see myself working as an adult educator throughout my professional life.	5,31	1,1

Source: SPSS V.21.

Table 13. Rating of item 17. Indicate the method by which specific training in adult education should be delivered (You can select multiple options).

	N
Initial training	54
Continuous training	103
Specialised training programme	32
Course in the master of teacher training and in the degree in primary education	67
Training during the probationary period	49

Source: SPSS V.21.

Notably, although the scores cannot be considered negative, item 19 – ‘If yes - having received specific training in adult education –’, which rates the quality and suitability of the training received from 1 to 6 (mean 4.61, standard deviation 1.02), this score is lower than that of the other questionnaire items. As above, further research into this item is necessary.

An item was included in the questionnaire to clarify certain aspects regarding the training regime of AECs’ teaching staff. The analyses related to this question are presented below (Table 13).

The most frequent option is continuous training (103 responses). However, notable importance was given to initial training (54 responses), particularly for those with a degree in Primary Education and a teacher training master’s degree (67 responses). This level of response could be related to a perception of the high degree of specialisation that adult education requires and that this specialisation should begin in initial teacher training.

4.3.2. Assessment of the significance of the differences between groups

As mentioned above, some of the results of the descriptive analyses need to be complemented with analyses aimed at assessing the significance of differences between groups. The objective is to verify the degree of agreement in the teachers' responses to the questionnaire. For this, we proceeded to verify if there were significant differences in scores based on different groups of the sample across different variables, primarily gender, age, teaching experience, and professional group. The most relevant results of this analysis show that, in general, no significant differences ($p < 0.05$) are observed in the evaluations of teachers based on their age, teaching experience or seniority, department or position within the AEC. Significant differences were found between the evaluations of the male and female teachers in several of the items in the questionnaire. It was observed that the evaluations of female teachers were higher than those of male teachers, which may be an indicator of greater sensitivity among female teachers in the perception of their training needs. However, the relevance of these differences obtained by calculating the effect size is considered low in all cases. This makes it impossible to state with sufficient certainty that the gender of the evaluator has a relevant effect on their ratings.

One caveat should be made regarding the analysis of differences in scores provided by teachers in managerial and coordination roles compared to the rest of the teaching staff. The Student's t-test shows that there are numerous elements in which the probability of finding values of differences greater than those calculated by chance alone is greater than the value set as the level of significance for this study ($\alpha = 0.05$). The elements reported are: the importance of adult education offerings in any of its modalities being grouped in AECs, the need for a specific training path for the teaching staff of these centres, issues related to the contents of the training and the traits that adult educators should have, and finally, future expectations regarding their work as teachers and as adult educators. In all of these, the scores of the management teams are higher than those of the rest of the teaching staff. This may be due to the mandatory training received by management teams, mainly the principal, as a requirement for their appointment. However, it should be noted that the estimated effect size using Cohen's d statistic shows that the effect of the variable on the ratings is not very relevant.

This information can be useful for drawing conclusions from the study. The results may indicate a tendency towards homogeneity in the assessments, suggesting a potential coincidence in the teachers' appreciation of the necessity and the orientation of the training. This aspect deserves to be considered when making decisions regarding the design of training actions for AECs teaching staff.

5. Discussion and conclusions

McMillan and Schumacher (2005) highlight the challenge of conducting probabilistic sampling in educational studies, often leading to the use of incidental or convenience sampling, as in this study. A convenience sample may assist in addressing the study's objective; however, the potential limitations of this type of sample in terms of external validity of the results should prompt caution in extending the results beyond the surveyed group.

The bias of social desirability can impact the validity of survey results, as participants may respond more in accordance with what is socially expected rather than their true evaluations. This bias can be present in any data collection effort. However, it is more frequently observed in the case of self-reports (Paulhus 2002, Holtgraves 2004, Caputo 2017), personality studies (Salgado 2005), or concerning sensitive topics, taboos, illegal behaviours, or extreme opinions (Krumpal 2013). None of the aspects are present in the questionnaire or the data collection procedure.

Nevertheless, it is assumed that this bias may be present in the study, as it is in most, with the consequences noted. To mitigate it as much as possible, the following measures have been implemented:

- Clearly stating the purpose of the data collection and the implications of participation in the study: the aim is to develop a professional profile (objective data regarding age, education, and professional experience) and identify training needs (based on their assessments of the importance and necessity of the various proposals outlined in the items)
- Ensuring the anonymity of participants throughout the entire process (avoiding the request for data that could identify participants in the study) - Emphasising the voluntary nature of participation
- Providing access to the electronic questionnaire via a QR code, allowing completion at a time deemed most appropriate by the participant, free from external pressures, as well as the submission of responses to a data table without the intervention of any other individual during the data collection process.

One of the purposes of the research is to develop future proposals for the training of AECs teachers, considering the objectives of adult education in Spain and the perceptions of students of this training. Hence, one of the main concerns of the research has been to ensure the validity of the results. As indicated above, the validation process followed a dual approach: on one hand, expert evaluation in adult education, including teachers and managers, and in evaluation was sought regarding the questionnaire's content as a precursor to its application; on the other hand, construct validation was carried out using both exploratory and confirmatory factor analysis techniques.

Regarding the validation of content by experts, Cabero-Almenara and Infante-Moro (2014) highlight the importance of considering factors such as knowledge and professional experience in the field of study, as well as commitment to participation in the evaluation process when selecting experts. The selection of experts took into account their expertise to ensure the presence of these factors. There is a notable level of agreement in the evaluations, both for relevance and clarity, for all questions in the questionnaire. The Kendall's W statistic indicated that the agreement among evaluators was significant, albeit falling within a low range, likely due to the high number of questionnaire items.

For construct validation, Exploratory Factor Analysis (EFA) was chosen over minimum residual Compliance with adequacy conditions regarding sample size

(Bartlett & Kaiser-Meyer-Olkin) and the recommendations by Hair *et al.* (2010) were verified.

In this analysis, it was decided initially to validate the theoretical structure outlined in the questionnaire's design without conducting a prior exploration of latent factorial structure. However, the outcome was not as desired, requiring subsequent exploratory and confirmatory analyses. It is important to note that the suitability of the factorial structure to the theoretical framework was considered a decisive factor in opting for the factorial solution subsequently validated, despite the explained variance percentage being slightly below 50%. This decision was supported by the goodness of fit obtained in the CFA.

These results are highly relevant in assessing the external validity of the measurement outcomes and will facilitate the development of training proposals.

To analyse the results of the questionnaires, teachers were classified according to age, years of teaching experience in AECs, participation (past or present) in AECs administration and professional category (career civil servant or probationer). The responses were analysed and a Student's t-test and a ANOVA test were performed to determine if the mean scores for each group differed significantly from those of another group of the same category. The results showed no significant mean differences ($p < 0.05$), except for those observed between the scores given by the directors and those given by the teachers.

In several of the analysed items, the scores of the directors were significantly higher than those of the teachers. However, estimating the effect size of these differences shows that they are not relevant. Thus, responses were homogenous between the different groups' opinions, regardless of age, years of experience in the CEA, involvement in CEA management or professional category.

Apart from the notable homogeneity of the groups, there was also a notable homogeneity in the responses, especially regarding the importance of training. The responses clearly reveal the areas where AE teacher training should focus. One of these areas was digitalisation. In this regard it should be noted that in 2021, the Ministry of Education and Vocational Training and the Autonomous Communities created a new reference framework for digital competence for teachers based on the European Framework for the Digital Competence of Educators (DigCompEdu, 2022) encompassing six key areas: (1) professional engagement, (2) digital resources, (3) assessment, (4) teaching and learning, (5) empowerment of students, and (6) facilitating learners' digital competence. Given the characteristics of different levels of education, and the different types of student profiles, this offers a broad range of training opportunities in digital competences for teachers in adult education which take into account the specific needs of students of AECs. Thus, the development of these training programs should incorporate input from AE teachers in adapting these six competences to the specific profiles and needs of students in adult education centres.

Regarding the methods to provide this additional training, over two thirds of the sample favoured continuous training, perhaps because this is the most accessible form of training for working teachers and with which they are most familiar (recall that the surveyed teachers are civil servants and are therefore accustomed to receiving continuous training). Training courses are also the principal way to receive points

for sexennials and salary increases. The second most popular option for training, selected by almost half the sample, is through a Master in Teaching and in the Degree in Primary Education, which are obligatory itineraries for teachers of primary and secondary education and vocational training schools. As noted above, there is a clear awareness among teachers of the need for training in teaching adult education and that this training should be received prior to starting in this position. Currently, such training is not provided, at least not for the content and with the depth teachers appear to demand, as observed in the responses to items 13 and 14 regarding teacher training. However, as previously mentioned, there is specific training available for directors of AECs centres.

Results show that AE teachers are highly dedicated and committed; the majority indicating they plan to remain in the teaching profession throughout their career. This conviction shows a slight decrease when asked about their dedication to AE, although a high percentage affirm their commitment to remaining in adult education. These figures suggest that any specific training provided to AE teachers will be highly effective and useful given their intentions to continue in their profession. This training will clearly benefit students through the greater knowledge, skills and experience of their teachers. Moreover, considering that while 78.57% percent of tenured teaching staff have received training, the percentage for interim teaching staff is only 52.73% among participants in the study; none of the substitute interim teachers received specific training. Furthermore, improving the number of tenured teachers may encourage long-term improvement projects, which may currently be hindered by the high percentage of temporary teaching staff in these centres.

The findings of prior studies also shed light on these results. For example, Fombona and Pascual (2019) suggest that personal attitudes are an essential aspect of adult education, among both students and teachers. The most notable attitudes found in our study, in terms of best practices, are related to motivation to achieve objectives; concern for quality; appreciation for diversity and multiculturalism; ethical commitment; the appreciation for work in an international context and teamwork.

Another study with 90 AE teachers concluded that they continue to lack specific training necessary for their profession (Rodríguez Correa and Rivadulla-López 2017) and a majority indicated they believe society is neither aware nor appreciates their work. Many also noted that the qualities necessary for their profession largely depend on the profile of their students. In our study, while teachers did not express a uniform or clear opinion on any specific training as essential for teaching adults, all responded affirmatively when asked if they wished to receive additional training, particularly in relation to teaching methodologies. Generally, the majority of the teachers who participated in the study (Rodríguez Correa and Rivadulla-López 2017) disagreed there should be a specific degree in adult education, and many believed their profession would not in fact be more valued even if this were the case. Nevertheless, as Sosa and Ribeiro (2015) noted, the professionalisation of teachers is an ongoing process of training and change, giving meaning and significance to the AE teaching profession.

Rumbo (2010, 2016) has stirred an interesting debate on whether Adult Education should be a university degree in itself. While there is currently no consensus on this question the same author notes that, regardless of the training model, there is

a clearly perceived need for more initial training for AE teachers, principally in two areas: specific knowledge of the field of Adult Education (its epistemological and philosophical foundations) and pedagogical knowledge of different curricular theories and teaching methodologies. However, it is also fundamental that training be provided to active teachers. The diverse profiles of AE teachers, rather than a hindrance, may constitute a rich source of knowledge and expertise. Rumbo (2016) suggests that an epistemology of adult education itself will lead society to regard adult education as an essential tool in meeting the challenges posed by current social realities.

From this perspective, and as expressed in our research objectives, the present study has aimed to explore the profile of AE teachers, emphasise the value of their profession and the need for specific training in this field.

Taking into account the results of this study and the preferences expressed in the responses by the teachers, it seems clear that education authorities must promote specific training itineraries for the teaching staff of adult centres. These itineraries must cover, on the one hand, students who are training to be teachers, both in primary and secondary, in their respective university degrees and master's degrees; on the other hand, to active teachers whose careers are oriented towards adult centres or already teach classes there. These itineraries would be complementary and consecutive. During university training, modules, subjects or courses on the job market for adults with and without education to meet their labour needs, Educational needs of adult students in educational centres, digitalisation specifically oriented towards adults (digital competence), psychological/sociological characteristics of adults, specific monitoring and tutoring for adults, vocational training and guidance as tutorial work in adult education centres, learning and development of capabilities in adulthood and strategies, tools and specific methodology for teaching adult migrant populations, vulnerable students due to personal or social situations (special education, incarcerated population, etc.) or aimed at educational inclusion and, subsequently, deepen this training through continuous training during a career as an adult teacher.

However, all of the above is not enough. As the results of the study show, a selective process would be required to ensure that teachers in adult centres have certain characteristics, such as mastery of content, proximity, empathy, flexibility and patience.

This procedure could be carried out through annual evaluations carried out by both students and management, under the guidance of education authorities, to ensure that teachers who best know and adapt to the needs of adult students develop their careers in adult centres.

At the same time, for this to be possible, education authorities must provide the necessary resources to ensure this training is provided and that teachers with teaching experience in adult centres and with the specific training to teach AE are rewarded with job stability in AECs.

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Data availability statement

The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research supporting data are not available.

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